

U.S. Patent 5,980,447 to Trudeau discloses an

interactive multimedia computing system for providing support to a recovering substance abuser. Included is an option for the person in recovery to participate in on-line group support discussions.

5 U.S. Patent 5,666,492 to Rhodes et al. discloses a computer based pharmaceutical care cognitive services management system for use by a pharmacist in phone or in person contact with one or more patients.

10 U.S. Patent 5,951,469 to Yamaura discloses a server based remote medical system including telephone lines for enabling a pre-registered counseling doctor to quickly respond to a counselee.

15 The evolution of the Internet offers significant opportunities for distributed and group based interaction among people interested in achieving common goals. Group based psychological counseling may combine the best elements of individual counselor - patient sessions and conventional group therapy; and make both counseling models available in a more time and cost efficient manner. That is, enabling counseling to place in a secure environment without necessitating travel by patients to a counselor would save time and expense for all involved. It is therefore, desirable to provide individual and group therapy services utilizing the advantages the Internet makes possible.

20 The prior art, while using the Internet, relies on telephone communication as well. It would be desirable to allow all communication in an on-line multiparty counseling service to take place via the Internet.

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#### **SUMMARY OF THE INVENTION**

The present invention allows such communication among and between counselors, persons seeking counseling

(hereinafter referred to as patients) and others persons invited (invitees) into counseling sessions by providing a counseling server, appropriately programmed for access by a plurality of client computers associated with plural  
5 counselors and plural patients, for delivering interactive counseling using multimedia conferencing.

In one aspect the present invention allows a given counselor to simultaneously interact with plural patients. In another aspect, individuals engaged in a  
10 counseling session may also engage in 'off-line' communication with people not in the counseling session.

In still another aspect, the present invention provides for counseling sessions comprising plural patients and a counselor.

15 These and other features and advantages are achieved by enabling the counseling server to maintain a roster of counselors by specialty and availability, which counselors may be assigned as needed to individual patients and patient groups for online counseling  
20 sessions. The counseling server is able, at the option of a user patient, to invite at least another person into the session. Counselors are able to request from the counseling server transcripts of sessions in which they participate. Billing and time management functions are  
25 also performed by the counseling server.

Other features of the counseling server include monitoring patient usage for billing and other administrative uses and a registration protocol for all counseling session participants.

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#### **BRIEF DESCRIPTION OF THE DRAWING**

The above and other features and advantages of the present invention will be better appreciated from the

following description taken in conjunction with the accompanying drawings wherein like reference numerals and labels are used throughout to denote the same elements and wherein:

5        Figure 1 is a structural diagram of a system including the present invention;

      Figure 2 illustrates the functional components of counseling server **10** of Fig. 1;

      Figure 3 shows a counselor's screen shot;

10       Figure 4 shows a patient's screen shot;

      Figure 5 illustrates the logic flow of the operation of the invention; and

      Figure 6 illustrates the functional flow within counseling server **10**.

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#### **DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT**

Refer now to **Figure 1**, which shows the principal elements of a system including the counseling server of the present invention. Counseling Server **10** is shown  
20 connected to the Internet **20**. Selectively connected to Counseling Server **10** via Internet **20** are client systems such as counselor A **24**, counselor B **28**, patient X **32** seeking counseling and patient Y **36** seeking counseling. Various third party invitees **40** to sessions may be  
25 selectively included by patients, as will be explained below.

**Fig. 2** shows in greater detail the primary components of Counseling Server **10**. Counseling program **50** is provided for setting up and administratively  
30 tracking counseling sessions. Counseling program **50** performs a variety of functions. A primary function concerns maintaining a current roster of counselors by

name, specialty and availability. Another function relates to registration and verification of patients seeking counseling.

5 Counseling program 50 also assembles groups of counseling session participants. Groups are comprised of the people at client systems (e.g. 24, 36, 40, Fig. 1) who communicate via the Internet during a counseling session.

10 An important feature of a system embodying the present invention is the enabling of a single counselor to counsel plural persons in a manner such that each person is in fact engaged in a one on one session. This advantage arises from the use of the Internet as the principle communication medium. Counseling program 50  
15 assembles one or more patients seeking counseling with a counselor chosen from the roster of counselors by name and/or specialty and availability. Thus, a given counselor is able to serially interact with several persons seeking counseling while to each person the  
20 appearance is that of a one on one session. Counseling program 50 is able to keep track of the actual session time per patient seeking counseling as well as the counselor's time by counselor and patient(s). In this manner billing to each person may be achieved and the  
25 counselor is properly compensated.

Fig. 2 illustrates the principle components of the counseling server 10 of the present invention. Counseling server 10 performs a variety of functions. Counseling server 10 is an Internet server, as shown in  
30 Fig. 1, and as such is addressable by counselors and those seeking counseling. The primary component of counseling server 10 is counseling program 50. Program

50 provides the essential features of the present invention.

As is well understood by those having skill in the art, counseling program 50 executes in conjunction with communications Web server 60 under control of operating system 70.

Returning now to program 50, it maintains a roster of patients with their pertinent identification, insurance, history, and like data. Further, program 50 maintains a roster of counselors by name and specialty, ongoing patient relationships, and similar data. These types of patient and counselor data are set forth for illustrative purposes only. The types and formats of data maintained are clearly implementation dependent. For example, were a system embodying the present invention implemented as an in house employee service for a large corporation or institution, the types and depth of data necessary would be understandably different than that needed to operate a system implemented for HMO members or one operated for anyone who chose to subscribe.

Another important function performed by program 50 may be generally termed time and billing. Again, the details about such functions and the nature and content of data needed are entirely implementation dependent. That is, information needed for pay as you go patient billing is quite different than that for prepaid patients.

A system may be set up to bill patients every time they access the system. An employee assistance plan may offer a number of sessions free of charge, regardless of session length. Still another form of system may be set

up for a onetime billing for a certain number of minutes, much like a prepaid phone card.

In any implementation, it is desirable to keep records of counselor time and patient load, whether they  
5 are compensated by time on line with patients and/or number of patients counseled. Counselor rates could obviously vary by specialty, by whether patients are counseled in groups or individually and by other professional factors. Thus, an accounting and billing  
10 module tailored to the implementation may be interconnected with program 50.

The overriding function performed by program 50 relates to establishing and terminating sessions. Program 50 is responsible for displaying menus through  
15 which patients enroll in and thereafter access the system. Program 50 matches patient indicated choices with available counselors. Still another aspect of program 50 is the capability to allow a patient signing on, based on the nature of the subject of counseling  
20 sought, the opportunity to enter an ongoing group session.

Another feature of program 50 is the capability to allow patients to communicate with others, not party to the patient counselor session, while the session is  
25 underway. Those having skill in the art will appreciate that any or all of the above mentioned options, or some others not included, may be incorporated into program 50.

For simplicity, program 50 is illustrated having its major components only. Registration module 52  
30 includes the code necessary to register patients and counselors. Session manager module 54 provides control of communication aspects of individual and group

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sessions. It also provides control over private communication between patients and people of their choice. Time and billing module **56** provides the capability of tracking online time of each patient and counselor. Storage module **58** is provided for maintaining patient rosters and files as well as counselor information. Clearly data security measures are integrated throughout program **50** but especially with regard to patient records.

Refer now to **Fig. 3**, which illustrates a sample screen shown to a counselor. Screen **80** displays a window for each patient with whom the counselor is currently engaged. Windows **82**, **84**, **86** contain the most recent input from the respective patient and the counselor's reply. At the counselor's option, a printed transcript of each session may be obtained.

**Fig. 4** illustrates a sample screen display for an individual patient. Screen **90** contains a window **92** which displays counselor comments and allows the patient to input information. If a patient is part of a group session window **92** displays information input by all participants in the session. Window **94** is reserved for private patient communication with a third party invitee not included in the session. Program **50** establishes such a private session if requested by the patient. Part of session establishment by program **50** includes inquiring of the proposed third party invitee their willingness and availability to participate and thereafter advising the patient of the third party invitee's response prior to enabling actual communication.

Referring to both **Fig. 3** and **Fig. 4**, the contents of window **82** on the counselor's screen and window **92** on a



patient's screen would be the same when the patient and counselor are engaged in a counseling session. Thus, the patient perceives him/herself in a one on one session while, in fact, the counselor is participating in three  
5 one on one counseling sessions substantially simultaneously.

**Fig. 5** depicts, from a patient perspective, an exemplary, high level logic flow during operation of a system including the present multiparty counseling  
10 server. Details of communications protocol and programming the features described above is believed to be within the skill of the art. The present invention relates to the administration of an Internet enabled multiparty counseling system wherein virtual group and  
15 one on one therapy sessions are dynamically established.

Patient registration step **100** represents the many aspects of patient sign-in. Program **50** interactively, using e.g. questionnaire(s) and menu choices, determines, inter alia, whether the requester is a new or returning  
20 patient, payment basis, nature of subject matter for which counseling is sought, specific counselor preference, and creates or updates records accordingly. At decision step **104** the requester indicates whether a one on one or group session is preferred.

25 If one on one counseling is desired, program **50** at step **108** checks counselor availability. This check would include whether a specific counsel, if requested, is available and taking patients. Otherwise, program **50** finds a counselor based on availability and expertise in  
30 the subject matter area. Step **112** represents program **50** confirming with both the requester and counselor a session date, time and the like. Obviously, a session

could be established immediately, if feasible and the parties agree. For this level of communication program **50** could advantageously utilize instant messaging.

At query **116**, program **50** ascertains whether the requester wants to use to private conversation feature of the present invention. If private conversation is to be included in a session, program **50** must make arrangements therefor at step **120**. Included in step **120** is contact with the third party(ies) the requester want to include as passive participants in the session. That is, the third party(ies) may observe the interchanges between the counselor and patient but communicate only with the patient. Program **50** appropriately advises the patient of his/her invitee(s) willingness and availability to participate.

If at step **116** the patient responded no to the option of inviting a third party, program **50** branches to step **124** and proceeds to dynamically set up and monitor elapsed time of the session. Program **50** reaches step **124** after arrangements for third party participation have been completed.

It should be clear that program **50** allows for a time lapse before step **124** actually occurs. As mentioned earlier, program **50** may accommodate immediate session set up, but more than likely some scheduling coordination will occur. Step **124** represents iterative communication between the patient and counselor. Further, it includes private communication events between the patient and his/her invited third parties. In any case, program **50** records patient and counselor time for administrative purposes.

Another feature of counseling program **50** permits

counselors to consult with each other, during a session or at other points in time. If a counselor needs to consult a colleague during a session as indicated at decision point **128**. If the counselor needs a  
5 consultation program **50** sets up and times the communication between counselors at step **132**. Again, this communication event may be iterative.

The session ends at step **136** with program **50** taking care of scheduling subsequent appointments and closing  
10 out the administrative records for the just concluded session. Step **136** also includes offering the counselor the option of receiving a transcript of the just concluded session.

If at decision step **104** the requesting patient  
15 expressed a preference for a group counseling experience, program **50** must determine at step **140** whether a suitable group has already been established. If no suitable group based on subject matter area with an opening is found, program **50** so advises the patient at step **144**. Step **144**  
20 includes exchanges with the patient regarding patient preferences as to waiting to a new group to be assembled by program **50** or going into one on one counseling. At this juncture, program **50** returns to patient registration step **100**, from which the patient may terminate his/her  
25 access to the system.

If an appropriate group is found at step **140**, then program **50** adds the patient to the group at step **148**. This step contemplates conferring with the counselor and other group members. Once all pertinent parties agree,  
30 program **50** branches to step **124**. A system including the present multiparty counseling server may also allow group therapy participants the option of having passive third

party invitee participants insofar as individual patients are concerned. Of course in such a case, from step **148** the program would branch to step **116**, and the third party invitee would be precluded from access to input provided by other session patient participants.

For group sessions step 124 includes enabling real time communication among all participants and maintaining suitable records of time for each in order to facilitate billing and other administrative functions. For group sessions a counselor is also able to selectively consult with one or more colleagues in much the same manner that a patient is able to consult a third party invitee.

The counseling program **50** of the present invention is susceptible to great customization. It has been described in an exemplary psychological counseling system, but is adaptable to other uses such as parent teacher conferences and affinity group environments.

**Fig. 6** illustrates functional flow within counseling server **10** from the perspective of the server upon access by a patient seeking counseling. Counseling server **10**, under control of counseling program **50**, receives a request as indicated at **150**. The first function to be accomplished is to check patient status at **154**. This function may include such aspects of patient status as: whether it the first or a return visit, whether the patient is part of a prepaid plan, how payment is to be made.

When a patient seeks counseling for the first time, it is necessary for the patient to register and thereby create a record. Records for return visit patients are appropriately updated. Server **10** then accepts patient preferences as interactively elicited at **158** by

counseling program **50**. Patient preferences may be sought for such variables as whether the patient wants one on one counseling or is interested in be part of group therapy session. The patient would be prompted to  
5 indicate the general category counseling desired such as career stress, coping with teenagers, relationship maintenance and the like. In any event, the patient is prompted to enter the time frame in which a counseling appointment is wanted, immediately or otherwise. Those  
10 having skill in the art will appreciate that other preference areas could be specified in implementation specific circumstances.

Another option for any patient is represented at **162**. A patient may wish to engage in private  
15 communication with a third party while the patient is participating in a counseling session. If that is the case, the patient would be prompted to supply the information necessary for server **10** to establish a communication session with such a third party at a client  
20 system remote from that of the patient.

Server **10** thereafter proceeds at **166** to match the patient with a therapist for counseling. A patient may have specified a particular counselor thereby simplifying the matching process. If no counselor has been  
25 specified, counseling program **50** searches a previously stored roster of counselors by specialty and availability within a time frame posed by the patient seeking counseling. Confirmation of an appointment for a counseling session is made at **170** by notifying all  
30 involved parties: patient; counselor; and any third party with whom the patient has indicated a desire to communicate privately during the session.

At the appointment time previously confirmed, a counseling session is established as represented at **174**. The session includes the parties with whom it has been confirmed. It will be recalled that a patient may have indicated a preference to be in a group therapy session. Thus, at the appropriate time all patients participating in a group as set up and administered by counseling program **50** are prompted access the system. Such prompting may occur via an e-mail, instant message, or the like, from server **10**.

Once a session is established and all parties are online, counseling program **50** tracks patient(s) and counselor time at **178** without intruding on the confidentiality of the session. As the session proceeds with a patient and counselor communicating using windows displayed by counseling program **50** as described above in connection with **Figs. 3** and **4**, time is recorded in accord with implementation specific rules.

At the end of a session, administrative tasks related to patient and counselor record updates, billing, and the like are accomplished within server **10**. Counseling program **50** would send a transcript of the session to the counselor if such has been requested.

The above mentioned and other modifications in form and detail may be made without departing from the spirit and scope of the claims which follow.

What is claimed is: